

X-15530.ST25.txt  
SEQUENCE LISTING

<110> Grealish, Patrick F.  
Rowlinson, Scott W.

<120> Glycosylation Modified IL-20

<130> X-15530

<150> PCT/US03/23265

<151> 2003-08-14

<160> 22

<170> PatentIn version 3.3

<210> 1

<211> 176

<212> PRT

<213> Homo sapiens

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Met Lys Ala Ser Ser Leu Ala Phe Ser Leu Leu Ser Ala Ala Phe Tyr  
1 5 10 15

Leu Leu Trp Thr Pro Ser Thr Gly Leu Lys Thr Leu Asn Leu Gly Ser  
20 25 30

Cys Val Ile Ala Thr Asn Leu Gln Glu Ile Arg Asn Gly Phe Ser Glu  
35 40 45

Ile Arg Gly Ser Val Gln Ala Lys Asp Gly Asn Ile Asp Ile Arg Ile  
50 55 60

Leu Arg Arg Thr Glu Ser Leu Gln Asp Thr Lys Pro Ala Asn Arg Cys  
65 70 75 80

Cys Leu Leu Arg His Leu Leu Arg Leu Tyr Leu Asp Arg Val Phe Lys  
85 90 95

Asn Tyr Gln Thr Pro Asp His Tyr Thr Leu Arg Lys Ile Ser Ser Leu  
100 105 110

Ala Asn Ser Phe Leu Thr Ile Lys Lys Asp Leu Arg Leu Cys His Ala  
115 120 125

His Met Thr Cys His Cys Gly Glu Glu Ala Met Lys Lys Tyr Ser Gln  
130 135 140

Ile Leu Ser His Phe Glu Lys Leu Glu Pro Gln Ala Ala Val Val Lys  
145 150 155 160

Ala Leu Gly Glu Leu Asp Ile Leu Leu Gln Trp Met Glu Glu Thr Glu

X-15530.ST25.txt

Trp Thr Tyr Ser Phe Ser Gly Ala Phe Leu Phe Ser Met Gly Phe Leu  
 225 230 235 240  
 Val Ala Val Leu Cys Tyr Leu Ser Tyr Arg Tyr Val Thr Lys Pro Pro  
 245 250 255  
 Ala Pro Pro Asn Ser Leu Asn Val Gln Arg Val Leu Thr Phe Gln Pro  
 260 265 270  
 Leu Arg Phe Ile Gln Glu His Val Leu Ile Pro Val Phe Asp Leu Ser  
 275 280 285  
 Gly Pro Ser Ser Leu Ala Gln Pro Val Gln Tyr Ser Gln Ile Arg Val  
 290 295 300  
 Ser Gly Pro Arg Glu Pro Ala Gly Ala Pro Gln Arg His Ser Leu Ser  
 305 310 315 320  
 Glu Ile Thr Tyr Leu Gly Gln Pro Asp Ile Ser Ile Leu Gln Pro Ser  
 325 330 335  
 Asn Val Pro Pro Pro Gln Ile Leu Ser Pro Leu Ser Tyr Ala Pro Asn  
 340 345 350  
 Ala Ala Pro Glu Val Gly Pro Pro Ser Tyr Ala Pro Gln Val Thr Pro  
 355 360 365  
 Glu Ala Gln Phe Pro Phe Tyr Ala Pro Gln Ala Ile Ser Lys Val Gln  
 370 375 380  
 Pro Ser Ser Tyr Ala Pro Gln Ala Thr Pro Asp Ser Trp Pro Pro Ser  
 385 390 395 400  
 Tyr Gly Val Cys Met Glu Gly Ser Gly Lys Asp Ser Pro Thr Gly Thr  
 405 410 415  
 Leu Ser Ser Pro Lys His Leu Arg Pro Lys Gly Gln Leu Gln Lys Glu  
 420 425 430  
 Pro Pro Ala Gly Ser Cys Met Leu Gly Gly Leu Ser Leu Gln Glu Val  
 435 440 445  
 Thr Ser Leu Ala Met Glu Glu Ser Gln Glu Ala Lys Ser Leu His Gln  
 450 455 460  
 Pro Leu Gly Ile Cys Thr Asp Arg Thr Ser Asp Pro Asn Val Leu His  
 465 470 475 480

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<213> Homo sapiens  
<400> 2

Met Arg Thr Leu Leu Thr Ile Leu Thr Val Gly Ser Leu Ala Ala His  
1 5 10 15

Ala Pro Glu Asp Pro Ser Asp Leu Leu Gln His Val Lys Phe Gln Ser  
20 25 30

Ser Asn Phe Glu Asn Ile Leu Thr Trp Asp Ser Gly Pro Glu Gly Thr  
35 40 45

Pro Asp Thr Val Tyr Ser Ile Glu Tyr Lys Thr Tyr Gly Glu Arg Asp  
50 55 60

Trp Val Ala Lys Lys Gly Cys Gln Arg Ile Thr Arg Lys Ser Cys Asn  
65 70 75 80

Leu Thr Val Glu Thr Gly Asn Leu Thr Glu Leu Tyr Tyr Ala Arg Val  
85 90 95

Thr Ala Val Ser Ala Gly Gly Arg Ser Ala Thr Lys Met Thr Asp Arg  
100 105 110

Phe Ser Ser Leu Gln His Thr Thr Leu Lys Pro Pro Asp Val Thr Cys  
115 120 125

Ile Ser Lys Val Arg Ser Ile Gln Met Ile Val His Pro Thr Pro Thr  
130 135 140

Pro Ile Arg Ala Gly Asp Gly His Arg Leu Thr Leu Glu Asp Ile Phe  
145 150 155 160

His Asp Leu Phe Tyr His Leu Glu Leu Gln Val Asn Arg Thr Tyr Gln  
165 170 175

Met His Leu Gly Gly Lys Gln Arg Glu Tyr Glu Phe Phe Gly Leu Thr  
180 185 190

Pro Asp Thr Glu Phe Leu Gly Thr Ile Met Ile Cys Val Pro Thr Trp  
195 200 205

Ala Lys Glu Ser Ala Pro Tyr Met Cys Arg Val Lys Thr Asp Arg Thr  
210 215 220

X-15530.ST25.txt

Ser Gly Glu Glu Gly Thr Pro Gln Tyr Leu Lys Gly Gln Leu Leu Ser  
485 490 495

Ser Val Gln Ile Glu Gly His Pro Met Ser Leu Gln Pro Pro Ser Gly  
500 505 510

Pro Cys Ser Pro Ser Asp Gln Gly Pro Ser Pro Trp Gly Leu Leu Glu  
515 520 525

Ser Leu Val Cys Pro Lys Asp Glu Ala Lys Ser Pro Ala Pro Glu Thr  
530 535 540

Ser Asp Leu Glu Gln Pro Thr Glu Leu Asp Ser Leu Phe Arg Gly Leu  
545 550 555 560

Ala Leu Thr Val Gln Trp Glu Ser  
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<213> Homo sapiens

<400> 3

Met Gln Thr Phe Thr Met Val Leu Glu Glu Ile Trp Thr Ser Leu Phe  
1 5 10 15

Met Trp Phe Phe Tyr Ala Leu Ile Pro Cys Leu Leu Thr Asp Glu Val  
20 25 30

Ala Ile Leu Pro Ala Pro Gln Asn Leu Ser Val Leu Ser Thr Asn Met  
35 40 45

Lys His Leu Leu Met Trp Ser Pro Val Ile Ala Pro Gly Glu Thr Val  
50 55 60

Tyr Tyr Ser Val Glu Tyr Gln Gly Glu Tyr Glu Ser Leu Tyr Thr Ser  
65 70 75 80

His Ile Trp Ile Pro Ser Ser Trp Cys Ser Leu Thr Glu Gly Pro Glu  
85 90 95

Cys Asp Val Thr Asp Asp Ile Thr Ala Thr Val Pro Tyr Asn Leu Arg  
100 105 110

Val Arg Ala Thr Leu Gly Ser Gln Thr Ser Ala Trp Ser Ile Leu Lys  
115 120 125

X-15530.ST25.txt

His Pro Phe Asn Arg Asn Ser Thr Ile Leu Thr Arg Pro Gly Met Glu  
130 135 140

Ile Thr Lys Asp Gly Phe His Leu Val Ile Glu Leu Glu Asp Leu Gly  
145 150 155 160

Pro Gln Phe Glu Phe Leu Val Ala Tyr Trp Arg Arg Glu Pro Gly Ala  
165 170 175

Glu Glu His Val Lys Met Val Arg Ser Gly Gly Ile Pro Val His Leu  
180 185 190

Glu Thr Met Glu Pro Gly Ala Ala Tyr Cys Val Lys Ala Gln Thr Phe  
195 200 205

Val Lys Ala Ile Gly Arg Tyr Ser Ala Phe Ser Gln Thr Glu Cys Val  
210 215 220

Glu Val Gln Gly Glu Ala Ile Pro Leu Val Leu Ala Leu Phe Ala Phe  
225 230 235 240

Val Gly Phe Met Leu Ile Leu Val Val Val Pro Leu Phe Val Trp Lys  
245 250 255

Met Gly Arg Leu Leu Gln Tyr Ser Cys Cys Pro Val Val Val Leu Pro  
260 265 270

Asp Thr Leu Lys Ile Thr Asn Ser Pro Gln Lys Leu Ile Ser Cys Arg  
275 280 285

Arg Glu Glu Val Asp Ala Cys Ala Thr Ala Val Met Ser Pro Glu Glu  
290 295 300

Leu Leu Arg Ala Trp Ile Ser  
305 310

<210> 4  
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<212> PRT  
<213> Homo sapiens

<400> 4

Met His Ser Ser Ala Leu Leu Cys Cys Leu Val Leu Leu Thr Gly Val  
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Arg Ala Ser Pro Gly Gln Gly Thr Gln Ser Glu Asn Ser Cys Thr His  
20 25 30

X-15530.ST25.txt

Phe Pro Gly Asn Asn Met Leu Arg Asp Leu Arg Asp Ala Phe Ser Arg  
35 40 45

Val Lys Thr Phe Phe Gln Met Lys Asp Gln Leu Asp Asn Leu Leu Leu  
50 55 60

Lys Glu Ser Leu Leu Glu Asp Phe Lys Gly Tyr Leu Gly Cys Gln Ala  
65 70 75 80

Leu Ser Glu Met Ile Gln Phe Tyr Leu Glu Glu Val Met Pro Gln Ala  
85 90 95

Glu Asn Gln Asp Pro Asp Ile Lys Ala His Val Asn Ser Leu Gly Glu  
100 105 110

Asn Leu Lys Thr Leu Arg Leu Arg Leu Arg Arg Cys His Arg Phe Cys  
115 120 125

Glu Asn Lys Ser Lys Ala Val Glu Gln Val Lys Asn Ala Phe Asn Lys  
130 135 140

Leu Gln Glu Lys Gly Ile Tyr Lys Ala Met Ser Glu Phe Asp Ile Phe  
145 150 155 160

Ile Asn Tyr Ile Glu Ala Tyr Met Thr Met Lys Ile Arg Asn  
165 170

<210> 5  
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<212> PRT  
<213> Homo sapiens

<400> 5

Met Lys Ala Ser Ser Leu Ala Phe Ser Leu Leu Ser Ala Ala Phe Tyr  
1 5 10 15

Leu Leu Trp Thr Pro Ser Thr Gly Leu Lys Thr Leu Asn Leu Gly Ser  
20 25 30

Cys Val Ile Ala Thr Asn Leu Gln Glu Ile Arg Asn Gly Phe Ser Glu  
35 40 45

Ile Arg Gly Ser Val Gln Ala Lys Asp Gly Asn Ile Asp Ile Arg Ile  
50 55 60

Leu Arg Arg Thr Glu Ser Leu Gln Asp Thr Lys Pro Ala Asn Arg Cys  
65 70 75 80

Cys Leu Leu Arg His Leu Leu Arg Leu Tyr Leu Asp Arg Val Phe Lys

Asn Tyr Gln Thr Pro Asp His Tyr Thr Leu Arg Lys Ile Ser Ser Leu  
100 105 110

Ala Asn Ser Phe Leu Thr Ile Lys Lys Asp Leu Arg Leu Cys His Ala  
115 120 125

His Met Thr Cys His Cys Gly Glu Glu Ala Met Asn Ala Thr Ser Gln  
130 135 140

Ile Leu Ser His Phe Glu Lys Leu Glu Pro Gln Ala Ala Val Val Lys  
145 150 155 160

Ala Leu Gly Glu Leu Asp Ile Leu Leu Gln Trp Met Glu Glu Thr Glu  
165 170 175

<210> 6  
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<212> PRT  
<213> Homo sapiens

<400> 6

Met Lys Ala Ser Ser Leu Ala Phe Ser Leu Leu Ser Ala Ala Phe Tyr  
1 5 10 15

Leu Leu Trp Thr Pro Ser Thr Gly Leu Lys Thr Leu Asn Leu Gly Ser  
20 25 30

Cys Val Ile Ala Thr Asn Leu Gln Glu Ile Arg Asn Gly Phe Ser Glu  
35 40 45

Ile Arg Gly Ser Val Gln Ala Lys Asp Gly Asn Ile Asp Ile Arg Ile  
50 55 60

Leu Arg Arg Thr Glu Ser Leu Gln Asp Thr Lys Pro Ala Asn Arg Cys  
65 70 75 80

Cys Leu Leu Arg His Leu Leu Arg Leu Tyr Leu Asp Arg Val Phe Lys  
85 90 95

Asn Tyr Gln Asn Arg Thr Pro Asp His Tyr Thr Leu Arg Lys Ile Ser  
100 105 110

Ser Leu Ala Asn Ser Phe Leu Thr Ile Lys Lys Asp Leu Arg Leu Cys  
115 120 125

His Ala His Met Thr Cys His Cys Gly Glu Glu Ala Met Lys Lys Tyr  
130 135 140

x-15530.ST25.txt

Ser Gln Ile Leu Ser His Phe Glu Lys Leu Glu Pro Gln Ala Ala Val  
145 150 155 160

Val Lys Ala Leu Gly Glu Leu Asp Ile Leu Leu Gln Trp Met Glu Glu  
165 170 175

Thr Glu

<210> 7  
<211> 175  
<212> PRT  
<213> Homo sapiens

<400> 7

Met Lys Ala Ser Ser Leu Ala Phe Ser Leu Leu Ser Ala Ala Phe Tyr  
1 5 10 15

Leu Leu Trp Thr Pro Ser Thr Gly Leu Lys Thr Leu Asn Leu Gly Ser  
20 25 30

Cys Val Ile Ala Thr Asn Leu Gln Glu Ile Arg Asn Gly Phe Ser Glu  
35 40 45

Ile Arg Gly Ser Val Gln Ala Lys Asp Gly Asn Ile Asp Ile Arg Ile  
50 55 60

Leu Arg Arg Thr Glu Ser Leu Gln Asp Thr Lys Pro Ala Asn Arg Cys  
65 70 75 80

Cys Leu Leu Arg His Leu Leu Arg Leu Tyr Leu Asp Arg Val Phe Lys  
85 90 95

Asn Arg Thr Pro Asp His Tyr Thr Leu Arg Lys Ile Ser Ser Leu Ala  
100 105 110

Asn Ser Phe Leu Thr Ile Lys Lys Asp Leu Arg Leu Cys His Ala His  
115 120 125

Met Thr Cys His Cys Gly Glu Glu Ala Met Lys Lys Tyr Ser Gln Ile  
130 135 140

Leu Ser His Phe Glu Lys Leu Glu Pro Gln Ala Ala Val Val Lys Ala  
145 150 155 160

Leu Gly Glu Leu Asp Ile Leu Leu Gln Trp Met Glu Glu Thr Glu  
165 170 175



X-15530.ST25.txt

<210> 8  
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 <212> PRT  
 <213> Homo sapiens

<400> 8

Met Lys Ala Ser Ser Leu Ala Phe Ser Leu Leu Ser Ala Ala Phe Tyr  
 1 5 10 15

Leu Leu Trp Thr Pro Ser Thr Gly Leu Lys Thr Leu Asn Leu Gly Ser  
 20 25 30

Cys Val Ile Ala Thr Asn Leu Gln Glu Ile Arg Asn Gly Phe Ser Glu  
 35 40 45

Ile Arg Gly Ser Val Gln Ala Lys Asp Gly Asn Ile Asn Val Thr Ile  
 50 55 60

Leu Arg Arg Thr Glu Ser Leu Gln Asp Thr Lys Pro Ala Asn Arg Cys  
 65 70 75 80

Cys Leu Leu Arg His Leu Leu Arg Leu Tyr Leu Asp Arg Val Phe Lys  
 85 90 95

Asn Tyr Gln Thr Pro Asp His Tyr Thr Leu Arg Lys Ile Ser Ser Leu  
 100 105 110

Ala Asn Ser Phe Leu Thr Ile Lys Lys Asp Leu Arg Leu Cys His Ala  
 115 120 125

His Met Thr Cys His Cys Gly Glu Glu Ala Met Lys Lys Tyr Ser Gln  
 130 135 140

Ile Leu Ser His Phe Glu Lys Leu Glu Pro Gln Ala Ala Val Val Lys  
 145 150 155 160

Ala Leu Gly Glu Leu Asp Ile Leu Leu Gln Trp Met Glu Glu Thr Glu  
 165 170 175

<210> 9  
 <211> 528  
 <212> DNA  
 <213> Homo sapiens

<400> 9

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ccttccactg gactgaagac actcaatttg ggaagctgtg tgatcgccac aaaccttcag 120

gaaatacgaa atggattttc tgagatacgg ggcagtgtgc aagccaaaga tggaacatt 180

X-15530.ST25.txt

gacatcagaa tcttaaggag gactgagtct ttgcaagaca caaagcctgc gaatcgatgc	240
tgcctcctgc gccatttgct aagactctat ctggacaggg tatttaaaaa ctaccagacc	300
cctgaccatt atactctccg gaagatcagc agcctcgcca attcctttct taccatcaag	360
aaggacctcc ggctctgtca tgcccacatg acatgccatt gtggggagga agcaatgaag	420
aaatacagcc agattctgag tcactttgaa aagctggaac ctcaggcagc agttgtgaag	480
gctttggggg aactagacat tcttctgcaa tggatggagg agacagaa	528

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 <212> DNA  
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gaaatacga atggattttc tgagatacgg ggcagtgtgc aagccaaaga tggaaacatt	180
gacatcagaa tcttaaggag gactgagtct ttgcaagaca caaagcctgc gaatcgatgc	240
tgcctcctgc gccatttgct aagactctat ctggacaggg tatttaaaaa ctaccagacc	300
cctgaccatt atactctccg gaagatcagc agcctcgcca attcctttct taccatcaag	360
aaggacctcc ggctctgtca tgcccacatg acatgccatt gtggggagga agcaatgaac	420
gcaactagtc agattctgag tcactttgaa aagctggaac ctcaggcagc agttgtgaag	480
gctttggggg aactagacat tcttctgcaa tggatggagg agacagaa	528

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ccttccactg gactgaagac actcaatttg ggaagctgtg tgatcgccac aaaccttcag	120
gaaatacga atggattttc tgagatacgg ggcagtgtgc aagccaaaga tggaaacatt	180
gacatcagaa tcttaaggag gactgagtct ttgcaagaca caaagcctgc gaatcgatgc	240
tgcctcctgc gccatttgct aagactctat ctggacaggg tatttaaaaa ctaccagaat	300
agaacccctg accattatac tctccggaag atcagcagcc tcgccaattc ctttcttacc	360
atcaagaagg acctccggct ctgtcatgcc cacatgacat gccattgtgg ggaggaagca	420
atgaagaaat acagccagat tctgagtcac tttgaaaagc tggaaacctca ggcagcagtt	480
gtgaaggctt tgggggaact agacattctt ctgcaatgga tggaggagac agaa	534

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X-15530.ST25.txt

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<213> Homo sapiens

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gaaatacgaa atggattttc tgagatacgg ggcagtgtgc aagccaaaga tggaaacatt 180  
gacatcagaa tcttaaggag gactgagtct ttgcaagaca caaagcctgc gaatcgatgc 240  
tgcctcctgc gccatttgct aagactctat ctggacaggg tatttaaaaa cagaaccctt 300  
gaccattata ctctccggaa gatcagcagc ctcgccaatt cctttcttac catcaagaag 360  
gacctccggc tctgtcatgc ccacatgaca tgccattgtg gggaggaagc aatgaagaaa 420  
tacagccaga ttctgagtca ctttgaaaag ctggaacctc aggcagcagt tgtgaaggct 480  
ttgggggaac tagacattct tctgcaatgg atggaggaga cagaa 525

<210> 13  
<211> 528  
<212> DNA  
<213> Homo sapiens

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ccttccactg gactgaagac actcaatttg ggaagctgtg tgatcgccac aaaccttcag 120  
gaaatacgaa atggattttc tgagatacgg ggcagtgtgc aagccaaaga tggaaacatt 180  
aacgtcaciaa tattaaggag gactgagtct ttgcaagaca caaagcctgc gaatcgatgc 240  
tgcctcctgc gccatttgct aagactctat ctggacaggg tatttaaaaa ctaccagacc 300  
cctgaccatt atactctccg gaagatcagc agcctcgcca attcctttct taccatcaag 360  
aaggacctcc ggctctgtca tgccacatg acatgccatt gtggggagga agcaatgaag 420  
aaatacagcc agattctgag tcactttgaa aagctggaac ctcaggcagc agttgtgaag 480  
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<223> X = any amino acid

<220>  
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<222> (142)..(143)  
<223> X = Thr or Ser

X-15530.ST25.txt

<400> 14

Met Lys Ala Ser Ser Leu Ala Phe Ser Leu Leu Ser Ala Ala Phe Tyr  
1 5 10 15

Leu Leu Trp Thr Pro Ser Thr Gly Leu Lys Thr Leu Asn Leu Gly Ser  
20 25 30

Cys Val Ile Ala Thr Asn Leu Gln Glu Ile Arg Asn Gly Phe Ser Glu  
35 40 45

Ile Arg Gly Ser Val Gln Ala Lys Asp Gly Asn Ile Asp Ile Arg Ile  
50 55 60

Leu Arg Arg Thr Glu Ser Leu Gln Asp Thr Lys Pro Ala Asn Arg Cys  
65 70 75 80

Cys Leu Leu Arg His Leu Leu Arg Leu Tyr Leu Asp Arg Val Phe Lys  
85 90 95

Asn Tyr Gln Thr Pro Asp His Tyr Thr Leu Arg Lys Ile Ser Ser Leu  
100 105 110

Ala Asn Ser Phe Leu Thr Ile Lys Lys Asp Leu Arg Leu Cys His Ala  
115 120 125

His Met Thr Cys His Cys Gly Glu Glu Ala Met Asn Xaa Xaa Xaa Ser  
130 135 140

Gln Ile Leu Ser His Phe Glu Lys Leu Glu Pro Gln Ala Ala Val Val  
145 150 155 160

Lys Ala Leu Gly Glu Leu Asp Ile Leu Leu Gln Trp Met Glu Glu Thr  
165 170 175

Glu

<210> 15  
<211> 179  
<212> PRT  
<213> Homo sapiens

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X-15530.ST25.txt

<222> (102)..(103)  
<223> X= Thr or Ser

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Met Lys Ala Ser Ser Leu Ala Phe Ser Leu Leu Ser Ala Ala Phe Tyr  
1 5 10 15

Leu Leu Trp Thr Pro Ser Thr Gly Leu Lys Thr Leu Asn Leu Gly Ser  
20 25 30

Cys Val Ile Ala Thr Asn Leu Gln Glu Ile Arg Asn Gly Phe Ser Glu  
35 40 45

Ile Arg Gly Ser Val Gln Ala Lys Asp Gly Asn Ile Asp Ile Arg Ile  
50 55 60

Leu Arg Arg Thr Glu Ser Leu Gln Asp Thr Lys Pro Ala Asn Arg Cys  
65 70 75 80

Cys Leu Leu Arg His Leu Leu Arg Leu Tyr Leu Asp Arg Val Phe Lys  
85 90 95

Asn Tyr Gln Asn Xaa Xaa Xaa Pro Asp His Tyr Thr Leu Arg Lys Ile  
100 105 110

Ser Ser Leu Ala Asn Ser Phe Leu Thr Ile Lys Lys Asp Leu Arg Leu  
115 120 125

Cys His Ala His Met Thr Cys His Cys Gly Glu Glu Ala Met Lys Lys  
130 135 140

Tyr Ser Gln Ile Leu Ser His Phe Glu Lys Leu Glu Pro Gln Ala Ala  
145 150 155 160

Val Val Lys Ala Leu Gly Glu Leu Asp Ile Leu Leu Gln Trp Met Glu  
165 170 175

Glu Thr Glu

<210> 16  
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<212> PRT  
<213> Homo sapiens

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x-15530.ST25.txt

<220>  
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<223> X = Thr or Ser

<400> 16

Met Lys Ala Ser Ser Leu Ala Phe Ser Leu Leu Ser Ala Ala Phe Tyr  
1 5 10 15

Leu Leu Trp Thr Pro Ser Thr Gly Leu Lys Thr Leu Asn Leu Gly Ser  
20 25 30

Cys Val Ile Ala Thr Asn Leu Gln Glu Ile Arg Asn Gly Phe Ser Glu  
35 40 45

Ile Arg Gly Ser Val Gln Ala Lys Asp Gly Asn Ile Asp Ile Arg Ile  
50 55 60

Leu Arg Arg Thr Glu Ser Leu Gln Asp Thr Lys Pro Ala Asn Arg Cys  
65 70 75 80

Cys Leu Leu Arg His Leu Leu Arg Leu Tyr Leu Asp Arg Val Phe Lys  
85 90 95

Asn Xaa Xaa Xaa Pro Asp His Tyr Thr Leu Arg Lys Ile Ser Ser Leu  
100 105 110

Ala Asn Ser Phe Leu Thr Ile Lys Lys Asp Leu Arg Leu Cys His Ala  
115 120 125

His Met Thr Cys His Cys Gly Glu Glu Ala Met Lys Lys Tyr Ser Gln  
130 135 140

Ile Leu Ser His Phe Glu Lys Leu Glu Pro Gln Ala Ala Val Val Lys  
145 150 155 160

Ala Leu Gly Glu Leu Asp Ile Leu Leu Gln Trp Met Glu Glu Thr Glu  
165 170 175

<210> 17  
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<212> PRT  
<213> Homo sapiens

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x-15530.ST25.txt

<220>  
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<400> 18

Met Lys Ala Ser Ser Leu Ala Phe Ser Leu Leu Ser Ala Ala Phe Tyr  
 1 5 10 15

Leu Leu Trp Thr Pro Ser Thr Gly Leu Lys Thr Leu Asn Leu Gly Ser  
 20 25 30

Cys Val Ile Ala Thr Asn Leu Gln Glu Ile Arg Asn Gly Phe Ser Glu  
 35 40 45

Ile Arg Gly Ser Val Gln Ala Lys Asp Gly Asn Ile Asn Xaa Xaa Xaa  
 50 55 60

Ile Leu Arg Arg Thr Glu Ser Leu Gln Asp Thr Lys Pro Ala Asn Arg  
 65 70 75 80

Cys Cys Leu Leu Arg His Leu Leu Arg Leu Tyr Leu Asp Arg Val Phe  
 85 90 95

Lys Asn Tyr Gln Thr Pro Asp His Tyr Thr Leu Arg Lys Ile Ser Ser  
 100 105 110

Leu Ala Asn Ser Phe Leu Thr Ile Lys Lys Asp Leu Arg Leu Cys His  
 115 120 125

Ala His Met Thr Cys His Cys Gly Glu Glu Ala Met Asn Xaa Xaa Xaa  
 130 135 140

Ser Gln Ile Leu Ser His Phe Glu Lys Leu Glu Pro Gln Ala Ala Val  
 145 150 155 160

Val Lys Ala Leu Gly Glu Leu Asp Ile Leu Leu Gln Trp Met Glu Glu  
 165 170 175

Thr Glu

x-15530.ST25.txt

<222> (63)..(64)

<223> X = Thr or Ser

<400> 17

Met Lys Ala Ser Ser Leu Ala Phe Ser Leu Leu Ser Ala Ala Phe Tyr  
1 5 10 15

Leu Leu Trp Thr Pro Ser Thr Gly Leu Lys Thr Leu Asn Leu Gly Ser  
20 25 30

Cys Val Ile Ala Thr Asn Leu Gln Glu Ile Arg Asn Gly Phe Ser Glu  
35 40 45

Ile Arg Gly Ser Val Gln Ala Lys Asp Gly Asn Ile Asn Xaa Xaa Xaa  
50 55 60

Ile Leu Arg Arg Thr Glu Ser Leu Gln Asp Thr Lys Pro Ala Asn Arg  
65 70 75 80

Cys Cys Leu Leu Arg His Leu Leu Arg Leu Tyr Leu Asp Arg Val Phe  
85 90 95

Lys Asn Tyr Gln Thr Pro Asp His Tyr Thr Leu Arg Lys Ile Ser Ser  
100 105 110

Leu Ala Asn Ser Phe Leu Thr Ile Lys Lys Asp Leu Arg Leu Cys His  
115 120 125

Ala His Met Thr Cys His Cys Gly Glu Glu Ala Met Lys Lys Tyr Ser  
130 135 140

Gln Ile Leu Ser His Phe Glu Lys Leu Glu Pro Gln Ala Ala Val Val  
145 150 155 160

Lys Ala Leu Gly Glu Leu Asp Ile Leu Leu Gln Trp Met Glu Glu Thr  
165 170 175

Glu

<210> 18

<211> 178

<212> PRT

<213> Homo sapiens

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<223> X = any amino acid



X-15530.ST25.txt

<210> 19  
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Met Lys Ala Ser Ser Leu Ala Phe Ser Leu Leu Ser Ala Ala Phe Tyr  
 1 5 10 15

Leu Leu Trp Thr Pro Ser Thr Gly Leu Lys Thr Leu Asn Leu Gly Ser  
 20 25 30

Cys Val Ile Ala Thr Asn Leu Gln Glu Ile Arg Asn Gly Phe Ser Glu  
 35 40 45

Ile Arg Gly Ser Val Gln Ala Lys Asp Gly Asn Ile Asp Ile Arg Ile  
 50 55 60

Leu Arg Arg Thr Glu Ser Leu Gln Asp Thr Lys Pro Ala Asn Arg Cys  
 65 70 75 80

Cys Leu Leu Arg His Leu Leu Arg Leu Tyr Leu Asp Arg Val Phe Lys  
 85 90 95

Asn Xaa Xaa Xaa Pro Asp His Tyr Thr Leu Arg Lys Ile Ser Ser Leu  
 100 105 110

Ala Asn Ser Phe Leu Thr Ile Lys Lys Asp Leu Arg Leu Cys His Ala  
 115 120 125

His Met Thr Cys His Cys Gly Glu Glu Ala Met Asn Xaa Xaa Xaa Ser  
 130 135 140

X-15530.ST25.txt

Gln Ile Leu Ser His Phe Glu Lys Leu Glu Pro Gln Ala Ala Val Val  
145 150 155 160

Lys Ala Leu Gly Glu Leu Asp Ile Leu Leu Gln Trp Met Glu Glu Thr  
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Glu

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<220>  
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Met Lys Ala Ser Ser Leu Ala Phe Ser Leu Leu Ser Ala Ala Phe Tyr  
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Leu Leu Trp Thr Pro Ser Thr Gly Leu Lys Thr Leu Asn Leu Gly Ser  
20 25 30

Cys Val Ile Ala Thr Asn Leu Gln Glu Ile Arg Asn Gly Phe Ser Glu  
35 40 45

Ile Arg Gly Ser Val Gln Ala Lys Asp Gly Asn Ile Asn Xaa Xaa Xaa  
50 55 60

Ile Leu Arg Arg Thr Glu Ser Leu Gln Asp Thr Lys Pro Ala Asn Arg  
65 70 75 80

Cys Cys Leu Leu Arg His Leu Leu Arg Leu Tyr Leu Asp Arg Val Phe  
85 90 95

X-15530.ST25.txt

Lys Asn Xaa Xaa Xaa Pro Asp His Tyr Thr Leu Arg Lys Ile Ser Ser  
100 105 110

Leu Ala Asn Ser Phe Leu Thr Ile Lys Lys Asp Leu Arg Leu Cys His  
115 120 125

Ala His Met Thr Cys His Cys Gly Glu Glu Ala Met Lys Lys Tyr Ser  
130 135 140

Gln Ile Leu Ser His Phe Glu Lys Leu Glu Pro Gln Ala Ala Val Val  
145 150 155 160

Lys Ala Leu Gly Glu Leu Asp Ile Leu Leu Gln Trp Met Glu Glu Thr  
165 170 175

Glu

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<223> X = Thr or Ser

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<220>  
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<223> X = Thr or Ser

<400> 21

Met Lys Ala Ser Ser Leu Ala Phe Ser Leu Leu Ser Ala Ala Phe Tyr

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10

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Leu Leu Trp Thr Pro Ser Thr Gly Leu Lys Thr Leu Asn Leu Gly Ser  
20 25 30

Cys Val Ile Ala Thr Asn Leu Gln Glu Ile Arg Asn Gly Phe Ser Glu  
35 40 45

Ile Arg Gly Ser Val Gln Ala Lys Asp Gly Asn Ile Asn Xaa Xaa Xaa  
50 55 60

Ile Leu Arg Arg Thr Glu Ser Leu Gln Asp Thr Lys Pro Ala Asn Arg  
65 70 75 80

Cys Cys Leu Leu Arg His Leu Leu Arg Leu Tyr Leu Asp Arg Val Phe  
85 90 95

Lys Asn Xaa Xaa Xaa Pro Asp His Tyr Thr Leu Arg Lys Ile Ser Ser  
100 105 110

Leu Ala Asn Ser Phe Leu Thr Ile Lys Lys Asp Leu Arg Leu Cys His  
115 120 125

Ala His Met Thr Cys His Cys Gly Glu Glu Ala Met Asn Xaa Xaa Xaa  
130 135 140

Ser Gln Ile Leu Ser His Phe Glu Lys Leu Glu Pro Gln Ala Ala Val  
145 150 155 160

Val Lys Ala Leu Gly Glu Leu Asp Ile Leu Leu Gln Trp Met Glu Glu  
165 170 175

Thr Glu

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<400> 22

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1 5 10 15

Leu Leu Ala Ala Pro Trp Gly Arg Ala Val Pro Cys Val Ser Gly Gly  
20 25 30

Lys Pro Ala Asn Ile Thr Phe Leu Ser Ile Asn Met Lys Asn Val Leu  
35 40 45

X-15530.ST25.txt

Gln Trp Thr Pro Pro Glu Gly Leu Gln Gly Val Lys Val Thr Tyr Thr  
50 55 60

Val Gln Tyr Phe Ile Tyr Gly Gln Lys Lys Trp Leu Asn Lys Ser Glu  
65 70 75 80

Cys Arg Asn Ile Asn Arg Thr Tyr Cys Asp Leu Ser Ala Glu Thr Ser  
85 90 95

Asp Tyr Glu His Gln Tyr Tyr Ala Lys Val Lys Ala Ile Trp Gly Thr  
100 105 110

Lys Cys Ser Lys Trp Ala Glu Ser Gly Arg Phe Tyr Pro Phe Leu Glu  
115 120 125

Thr Gln Ile Gly Pro Pro Glu Val Ala Leu Thr Thr Asp Glu Lys Ser  
130 135 140

Ile Ser Val Val Leu Thr Ala Pro Glu Lys Trp Lys Arg Asn Pro Glu  
145 150 155 160

Asp Val Ser Met Gln Gln Ile Tyr Ser Asn Leu Lys Tyr Asn Val Ser  
165 170 175

Val Leu Asn Thr Lys Ser Asn Arg Thr Trp Ser Gln Cys Val Thr Asn  
180 185 190

His Thr Leu Val Leu Thr Trp Leu Glu Pro Asn Thr Leu Tyr Cys Val  
195 200 205

His Val Glu Ser Phe Val Pro Gly Pro Pro Arg Arg Ala Gln Pro Ser  
210 215 220

Glu Lys Gln Cys Ala Arg Thr Leu Lys Asp Gln Ser Ser Glu Phe Lys  
225 230 235 240

Ala Lys Ile Ile Phe Trp Tyr Val Ile Ser Ile Thr Val Phe Leu Phe  
245 250 255

Ser Val Met Gly Tyr Ser Ile Tyr Arg Tyr Ile His Val Gly Lys Glu  
260 265 270

Lys His Pro Ala Asn Leu Ile Leu Ile Tyr Gly Asn Glu Phe Asp Lys  
275 280 285

Arg Phe Phe Val Pro Ala Glu Lys Ile Val Ile Asn Phe Ile Thr Leu  
290 295 300

X-15530.ST25.txt

Asn Ile Ser Asp Asp Ser Lys Ile Ser His Gln Asp Met Ser Leu Leu  
 305 310 315 320  
 Gly Lys Ser Ser Asp Val Ser Ser Leu Asn Asp Pro Gln Pro Ser Gly  
 325 330 335  
 Asn Leu Arg Pro Pro Gln Glu Glu Glu Glu Val Lys His Leu Gly Tyr  
 340 345 350  
 Ala Ser His Leu Met Glu Ile Phe Cys Asp Ser Glu Glu Asn Thr Glu  
 355 360 365  
 Gly Thr Ser Leu Thr Gln Gln Glu Ser Leu Ser Arg Thr Ile Pro Pro  
 370 375 380  
 Asp Lys Thr Val Ile Glu Tyr Glu Tyr Asp Val Arg Thr Thr Asp Ile  
 385 390 395 400  
 Cys Ala Gly Pro Glu Glu Gln Glu Leu Ser Leu Gln Glu Glu Val Ser  
 405 410 415  
 Thr Gln Gly Thr Leu Leu Glu Ser Gln Ala Ala Leu Ala Val Leu Gly  
 420 425 430  
 Pro Gln Thr Leu Gln Tyr Ser Tyr Thr Pro Gln Leu Gln Asp Leu Asp  
 435 440 445  
 Pro Leu Ala Gln Glu His Thr Asp Ser Glu Glu Gly Pro Glu Glu Glu  
 450 455 460  
 Pro Ser Thr Thr Leu Val Asp Trp Asp Pro Gln Thr Gly Arg Leu Cys  
 465 470 475 480  
 Ile Pro Ser Leu Ser Ser Phe Asp Gln Asp Ser Glu Gly Cys Glu Pro  
 485 490 495  
 Ser Glu Gly Asp Gly Leu Gly Glu Glu Gly Leu Leu Ser Arg Leu Tyr  
 500 505 510  
 Glu Glu Pro Ala Pro Asp Arg Pro Pro Gly Glu Asn Glu Thr Tyr Leu  
 515 520 525  
 Met Gln Phe Met Glu Glu Trp Gly Leu Tyr Val Gln Met Glu Asn  
 530 535 540